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(54) A cork extractor

(57) A cork extractor comprises a main body (1) defining a substantially curved outer edge and a track (5), tracking means (11) movable along the said track and a screw member (9) connected to said tracking means (11), wherein the said track (5) is so shaped that as the tracking means (11) is moved from one end thereof to the other said screw member (9) is progressively withdrawn from an extended position relative to the curved outer edge of the main body (1) to a retracted position relative thereto.

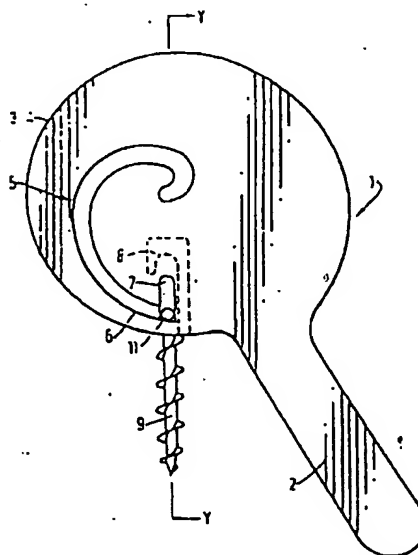
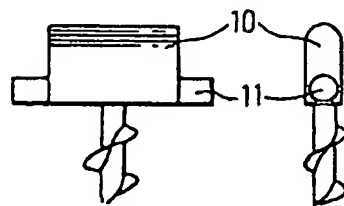
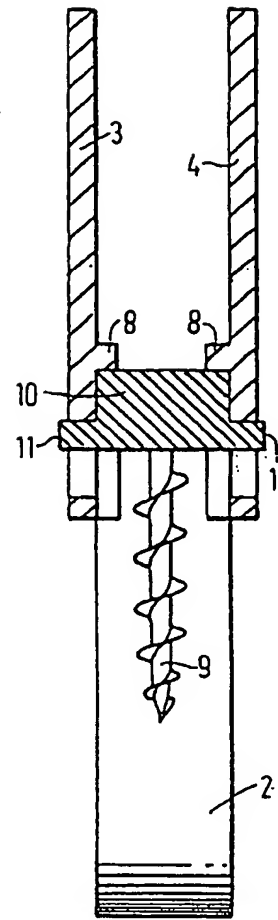
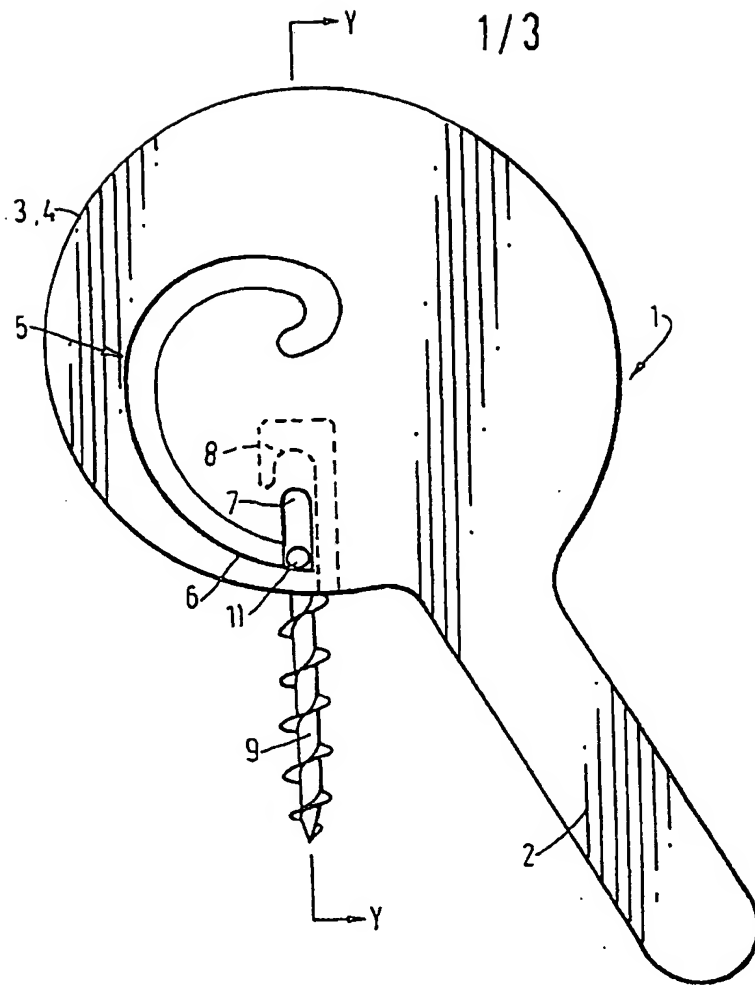


FIG. 1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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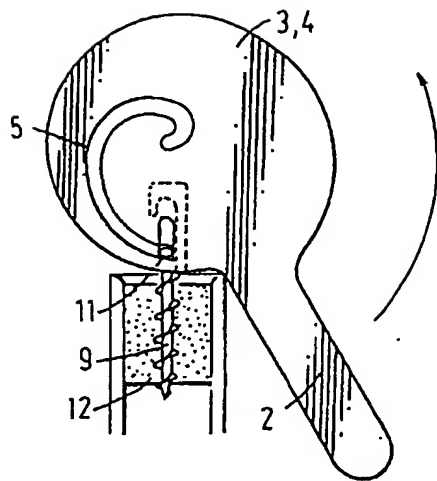


FIG. 4a

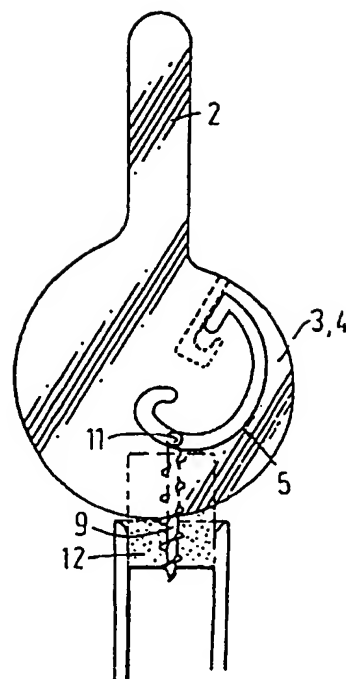


FIG. 4b

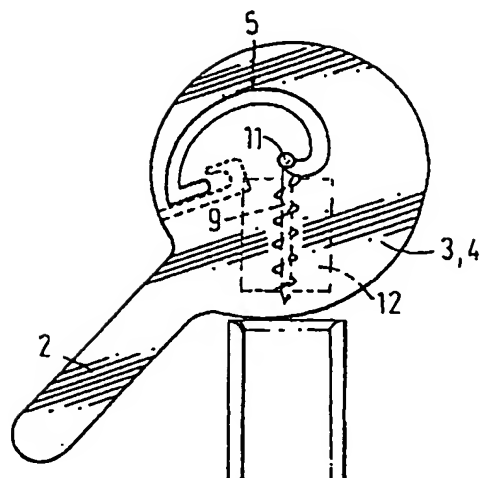
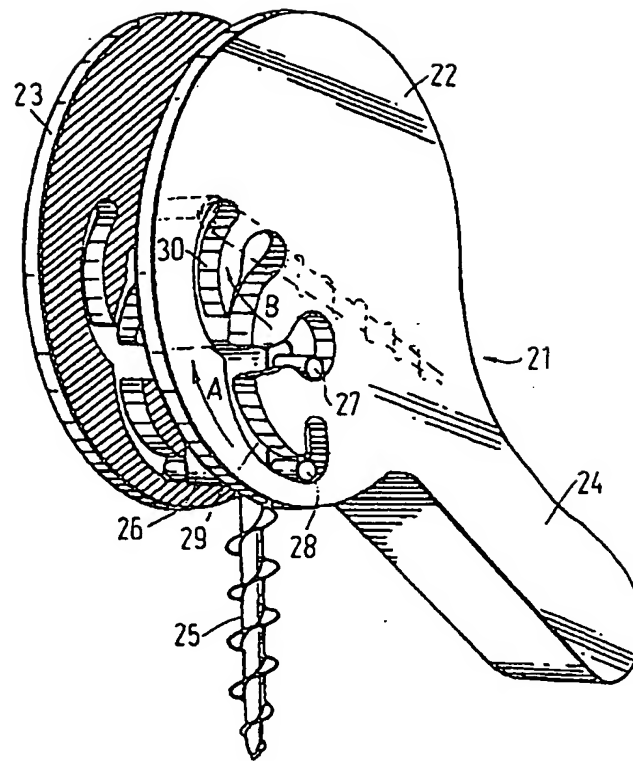


FIG. 4c

FIG. 5

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DESCRIPTION

A CORK EXTRACTOR

The present invention relates to a cork extractor.

A cork extractor is a device for pulling corks and stoppers from bottle necks and other apertures.

5 A typical cork extractor comprises a screw member connected to a handle which enables the tip of the screw to be twisted into a cork and the cork to be pulled. However, because the cork extractor must be pulled directly outwards from the orifice in which the cork is
10 retained there is no leverage to assist extraction. Consequently, whilst still widely used, these corkscrews cannot be regarded as satisfactory.

More sophisticated cork extractors are also known in which the screw member is axially slidable within a
15 tubular body and is connected to a pair of lever arms, pivotally secured to the tubular body, by respective worm gear and worm wheel arrangements. In use the tubular body is supported on the neck of a bottle and the screw member is twisted into the cork. As the screw member is
20 twisted it moves axially relative to the tubular body and this causes the lever arms to be driven upwardly and outwardly. Once the screw member is fully home, the lever arms are pushed downward, and because the tubular body is now braced against the bottle neck the screw
25 member is retracted axially into the tubular body, pulling the cork out with it. This cork extractor is

very effective in operation and easy to use, but its relative sophistication and use of gears make it expensive from a production viewpoint.

5 It is an object of the present invention to provide a simple, yet effective cork extractor which provides a mechanical advantage to facilitate extraction of corks and stoppers.

10 According to the present invention there is provided a cork extractor comprising a main body defining a substantially curved outer edge and a track, tracking means movable along the said track and a screw member connected to said tracking means, wherein the said track is so shaped that as the tracking means is moved from one end thereof to the other the said screw member is
15 progressively withdrawn from an extended position relative to the curved outer edge of the main body to a retracted position relative thereto.

In a first embodiment of the present invention the said track defines a curve which extends from a point
20 lying close to the curved outer edge of the main body to a point remote therefrom.

In use the tracking means is moved to the end of the track closest to the curved outer edge of the main body so that the screw member is fully extended therebeyond
25 and the main body is then twisted about the longitudinal axis of the screw member to drive the screw member into a cork. Once the screw member is fully screwed into the

cork, that is to say when the curved outer edge of the main body is in abutment with the side of the aperture in which the cork is retained, the main body is rotated about the tracking means, thereby forcing the tracking means to traverse along the track towards the end thereof furthest from the curved outer edge of the main body. As the distance between the outer edge of the main body and the track increases the screw member is retracted relative to the said outer edge, thus drawing the cork out of the aperture in which it is received. It will be understood that the main body is rotated relative to the tracking means about an axis perpendicular to the longitudinal axis of the screw member and, further, that the outer edge of the main body braces the cork extractor against the side of the aperture on which the cork is received during extraction of the cork.

In a second embodiment of the present invention the said track defines two intersecting curves, each of which is traversable by respective tracking means.

In use, the tracking means are first positioned so that each lies at one end of its respective curved portion of track, in which initial position the screw member extends beyond the said curved outer edge of the main body. The main body is then twisted about the longitudinal axis of the screw member to drive the screw member into a cork. Once the screw member is fully screwed into the cork, the main body is rotated about a

first tracking means and as it is the second tracking member moves along its respective curved portion of track (the said point of rotation about the first tracking means forms the centre of the curved portion of track of the second tracking member) thereby causing the screw member to be gradually withdrawn relative to the said outer edge of the main body. When the second tracking means has fully traversed its respective curved portion of track further rotation of the main body about the first tracking means is prevented (except backwards). However, the forward movement of the main body can be continued as the main body is rotated about the second tracking means and the first tracking means moves along its respective curved portion of track (the said point of rotation about the second tracking member forms the centre of the curved portion of track of the second tracking member). This results in the screw member being withdrawn still further beyond the said outer edge of the main body, until when the end of the said curved portion of track is reached the screw member is fully withdrawn.

Preferably, the track is defined by a slot or groove and the tracking means comprises a laterally extending projection or lug which engages in the said slot or groove.

Preferably, the main body comprises a substantially circular or oval planar member and a handle or lever extends from the side thereof to facilitate rotation

thereof about the said tracking means.

Preferably, means are provided for bracing the tracking means when the screw member is screwed into a surface, thereby preventing the tracking means being
5 dislocated from its track.

Preferably, the track is extended at the end thereof which defines the initial position of the screw member and the bracing member lies adjacent to the said track extension. Thus, when the screw member is pushed against
10 a surface the tracking means are pushed along the said extension and into engagement with the bracing member.

Preferably, the cork extractor comprises a pair of main bodies which are spaced from each other and between which the screw member is located.

15 An embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 shows a side view of a cork extractor embodying the present invention;

20 Fig. 2 shows a section along lines Y-Y through the cork extractor of Fig. 1;

Fig. 3 shows a detail of the screw member;

Figs. 4(a), (b) and (c) show three separate views of the extraction of a cork using the cork extractor of
25 Fig. 1; and,

Fig. 5 shows a perspective view of a cork extractor according to a second embodiment of the present invention

Referring to Figs. 1 and 2 of the accompanying drawings the cork extractor comprises a main body 1 comprising a handle 2 and two essentially oval plate members 3 and 4 secured to opposite sides of the handle 2 in spaced relationship. A slot 5 is provided in each plate member 3, 4 which comprises a substantially curved portion 6, extending from a point close to the perimeter of the plate member 3, 4 to a point near the centre thereof, and a straight portion 7, extending radially inwards from the end of the curved portion 6 close to the perimeter of the plate member 3, 4. Each plate member 3, 4 supports an abutment member 8 on its inwardly facing surface and the abutment member 8 runs alongside the straight portion 7 of the slot 5 and around the end thereof.

A screw member 9 is supported between the two plate members 3 and 4, which is able to slide along the full length of the slot 5 and pivot relative to the main body in the curved portion 6 thereof. In this respect, the screw member 9 comprises a support body 10, shown in detail in Fig. 3, of substantially the same width as the distance between the two plate members 3 and 4. On each side of the support body 10 there is provided a lateral projection or lug 11 which engages in a respective slot 5. In profile the support body 10 compliments the inner edge of the abutment members 8. Thus, when the screw member 9 is slid towards the inner end of the radially

extending portion 7 of the slots 5, the support body 10 abuts against the abutment members 8. The abutment members 8 ensure that any twisting moment imported to the screw member 9 as it is screwed into a cork or stopper by rotating the main body 1 are not centered solely on the lugs 11 and the sides of the radially extending portion 7 of the slots 5. Without the additional support to the screw member 9 provided by the abutment members 8, the arms 11 would be liable to shear.

Referring now to Figs. 4(a), (b) and (c) operation of the cork extractor will be described. Initially the support body 10 is slid to the end of the curved portion 6 of slots 5 closest to the perimeter of the plates 3, 4. In this position the screw member 9 extends beyond the edge of the main body 1. As the screw member 9 is pressed against the top of a cork or stopper 12 the support body 10 slides up the radially extending portion 7 of the slots 5 and abuts against the inner edges of the abutment members 8. The screw member 9 can now be screwed into the cork 12 by rotating the main body 1. As the screw member 9 is screwed into the cork 11 a point is reached where the edges of the plate members 3 and 4 abut against the sides of the aperture in which the cork 12 is retained. At this point, as the main body 1 is rotated further, the support body 10 is drawn down the radially extending portion 7 of the slot 5 until it lies at the junction of the curved portion 6 and the radially

extending portion 7, as shown in Fig. 4(a).

Once the screw member 9 is fully screwed into the cork 12, the cork is extracted by rotating the main body 1 about the horizontal axis defined by the lugs 11. In this respect the handle 2 is passed from one side of screw member 9 to the other, as shown in Figs. 4(b) and (c). As the main body 1 rotates about the lugs 11 the lugs 11 track along the curved portion 6 of the slot 5 towards the centre of the plate members 3 and 4, thus causing the screw member 9 to be retracted between the plate members 3 and 4 and drawing the cork 12 out of the orifice in which it is retained. The shape of the plate members 3 and 4 is such as to increase the distance from the inner end of slot 5 to the perimeter of the plates on the side of the handle at which the screw body 9 finishes when rotated to extract a cork. This serves to ensure that a cork screwed onto the screw body is fully withdrawn beyond the perimeter of the plate members 3, 4.

Once the cork 12 has been extracted it is removed from the end of the screw member 9 by sliding the screw member 9 back along the curved portion 6 of the slot 5 to a point where it extends beyond the plate members 3 and 4. In this position the cork 12 can be twisted off the end of screw member 9 by gripping the cork 12 in one hand and twisting the main body 1 with the other.

Referring to fig. 5 of the accompanying drawings there is shown a cork extractor according to a second

embodiment of the present invention. In many respects,
this is identical to the embodiment of the present
invention shown in fig. 1 inasmuch as it comprises a main
body 21 having two essentially oval plate members 22 and
5 23 which are connected in spaced relationship to a handle
or lever 24. Located between the two plate members 22
and 23 is a screw member 25 which is connected to a
support body 26 (only partially visible). A pair of
laterally extending projections or lugs 27 and 28 project
10 from each side of the support body 26 and these lugs 27
and 28 are each received in a respective one of a pair of
curved, intersecting slots 29 and 30 provided in each
plate member 22 and 23.

The lugs 27 and 28 are each slidable along a
15 respective one of the curved tracks 29 and 30 to
progressively withdraw the screw member 25 relative to
the perimeter of the main body 21, thereby facilitating
withdrawal of a cork or stopper from an orifice.

In use the screw member 25 is screwed into a cork by
20 rotating the main body 21 about the longitudinal axis of
the screw member 25. When the screw member 25 is screwed
fully into the cork the edges of the plate members 22 and
23 rest against the sides of the orifice in which the
cork is received, thereby bracing the cork extractor.

25 Now the handle 24 is lifted to rotate the plate like
members and thereby drive the lugs 27 and 28 along the
slots 29 and 30 and thereby withdraw the cork. In the

first instance the plate members 22 and 23 rotate about
the lugs 27 and the lugs 28 each track their respective
slot 29 in the direction of arrow A. When the lugs 28
reach the end of the slot 29 continued movement of the
5 handle results in the plate members 22 and 23 rotating
about the lugs 28 and the lugs 27 track along their
respective slots 30 in the direction of arrow B. When
the lugs 27 reach the ends of the slots 30 the screw
member 25 lies in the position shown in dotted line and
10 is fully withdrawn.

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CLAIMS

1. A cork extractor comprising a main body defining a substantially curved outer edge and a track, tracking means movable along the said track and a screw member connected to said tracking means, wherein the said track is so shaped that as the tracking means is moved from one end thereof to the other the said screw member is progressively withdrawn from an extended position relative to the curved outer edge of the main body to a retracted position relative thereto.

2. A cork extractor according to claim 1, wherein the said track defines a curve which extends from a point lying close to the curved outer edge of the main body to a point remote therefrom.

3. A cork extractor according to claim 1, wherein the said track defines two intersecting curves, each of which is traversable by respective tracking means.

4. A cork extractor according to any preceding claim wherein the track is defined by a slot or groove and the tracking means comprises a laterally extending projection or lug which engages in the said slot or groove.

5. A cork extractor according to any preceding claim wherein the main body comprises a substantially circular or oval planar member.

6. A cork extractor according to any preceding claim wherein a handle or lever extends from the main

body to facilitate rotation thereof about the said tracking means.

7. A cork extractor according to any preceding claim, wherein means are provided for bracing the tracking means whilst the screw member is being screwed into a surface, thereby preventing the tracking means being dislocated from its track.

8. A cork extractor according to claim 7, wherein the track is extended at the end thereof which defines the initial position of the screw member and the bracing member lies adjacent to the said track extension.

9. A cork extractor according to any preceding claim comprising a pair of main bodies which are spaced from each other and between which the screw member is located.

10. A cork extractor substantially as hereinbefore described with reference to the accompanying drawings.

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